

WHAT IS CLAIMED IS:

1. A liquid crystal display comprising:
a first insulating substrate;
a plurality of gate lines formed on the first insulating substrate;
5 a plurality of data lines insulated from the gate lines and intersecting
the gate lines to define a plurality of pixel areas;
a plurality of pixel electrodes provided on the pixel areas;
a plurality of thin film transistors connected to the gate lines, the data
lines and the pixel electrodes;
10 a second insulating substrate facing the first insulating substrate;
a common electrode formed on the second insulating substrate;
a liquid crystal layer interposed between the first insulating substrate
and the second insulating substrate and aligned in an OCB mode;
first and second compensation films provided on outer surfaces of the
15 first and the second insulating substrate; and
first and second polarization films provided on outer surfaces of the
first and the second compensation films,
wherein $R_r \leq 17\text{nm}$, $R_g \leq 15\text{nm}$ and $R_b \leq 12\text{nm}$ where R_r , R_g and R_b
are retardations in a black state for red, green and blue lights, respectively.
- 20 2. A liquid crystal display comprising:
a first insulating substrate;
a plurality of gate lines formed on the first insulating substrate;
a plurality of data lines insulated from the gate lines and intersecting
the gate lines to define red, green and blue pixel areas;
25 a plurality of pixel electrodes provided on the pixel areas;
a plurality of thin film transistors connected to the gate lines, the data
lines and the pixel electrodes;
a second insulating substrate facing the first insulating substrate;
a common electrode formed on the second insulating substrate;

a liquid crystal layer interposed between the first insulating substrate and the second insulating substrate and aligned in an OCB mode;

first and second compensation films provided on outer surfaces of the first and the second insulating substrate; and

5 first and second polarization films provided on outer surfaces of the first and the second compensation films,

wherein a cell gap of the liquid crystal layer has different values on the red, the green and the blue pixel areas.

3. The liquid crystal display of claim 2, wherein wavelength
10 dispersion of the liquid crystal layer is larger than the wavelength dispersion of the first and the second compensation films, and the cell gap has values on the red, the green and the blue pixel areas satisfying:

the value on the red pixel area > the value on the green pixel area > the value on the blue pixel area.

15 4. The liquid crystal display of claim 2, wherein wavelength dispersion of the liquid crystal layer is smaller than the wavelength dispersion of the first and the second compensation films, and the cell gap has values on the red, the green and the blue pixel areas satisfying:

the value on the red pixel area < the value on the green pixel area < the
20 value on the blue pixel area.

5. The liquid crystal display of claim 2, further comprising red, green and blue color filters disposed between the second insulating substrate and the common electrode, arranged corresponding to the red, the green and the blue pixel areas, respectively, and having different thicknesses.

25 6. The liquid crystal display of claim 2, further comprising:
red, green and blue color filters disposed between the second insulating substrate and the common electrode, arranged corresponding to the red, the green and the blue pixel areas, respectively;

a gate insulating layer insulating the gate lines and the data lines; and

a passivation layer insulating the data lines and the pixel electrodes and protecting the thin film transistors,

wherein the green color filter is thicker than the red and the blue color filters and portions of the gate insulating layer and the passivation layer on the red and the green pixel areas are removed.

7. The liquid crystal display of claim 2, further comprising:

red, green and blue color filters disposed between the second insulating substrate and the common electrode, arranged corresponding to the red, the green and the blue pixel areas, respectively;

10 a gate insulating layer insulating the gate lines and the data lines; and
a passivation layer insulating the data lines and the pixel electrodes and protecting the thin film transistors,

wherein the green color filter is thicker than the red and the blue color filters and portions of the gate insulating layer and the passivation layer on the blue and the green pixel areas are removed.

8. The liquid crystal display of claim 2, further comprising:

a gate insulating layer insulating the gate lines and the data lines; and
a passivation layer insulating the data lines and the pixel electrodes and protecting the thin film transistors,

20 wherein the passivation layer has a thickness different on the red, the green and the blue pixel areas.

9. A liquid crystal display comprising:

a first insulating substrate;
a plurality of gate lines formed on the first insulating substrate;
25 a plurality of data lines insulated from the gate lines and intersecting the gate lines to define red, green and blue pixel areas;
a plurality of pixel electrodes provided on the pixel areas;
a plurality of thin film transistors connected to the gate lines, the data lines and the pixel electrodes;

30 a second insulating substrate facing the first insulating substrate;

- a common electrode formed on the second insulating substrate;
a liquid crystal layer interposed between the first insulating substrate and the second insulating substrate and aligned in an OCB mode;
first and second compensation films provided on outer surfaces of the
5 first and the second insulating substrate;
first and second polarization films provided on outer surfaces of the first and the second compensation films;
a gate driver sequentially applying a gate-on voltage to the gate lines for turning on the thin film transistors;
10 a data driver applying data voltages to the data lines; and
a controller converting red, green and blue original image data from an external device into modified image data based on the difference in the wavelength dispersion between the compensation films and the liquid crystal layer, transmitting the modified image data to the data driver, and generating
15 timing signals for controlling operation of the gate driver and the data driver to be output to the gate driver and the data driver.
10. The liquid crystal display of claim 9, wherein wavelength dispersion of the liquid crystal layer is larger than the wavelength dispersion of the first and the second compensation films, and the controller performs the
20 data conversion such that $V_{\text{blue}} > V_{\text{green}} > V_{\text{red}}$ for a gray.
11. The liquid crystal display of claim 9, wherein wavelength dispersion of the liquid crystal layer is smaller than the wavelength dispersion of the first and the second compensation films, and the controller performs the data conversion such that $V_{\text{blue}} < V_{\text{green}} < V_{\text{red}}$ for a gray.